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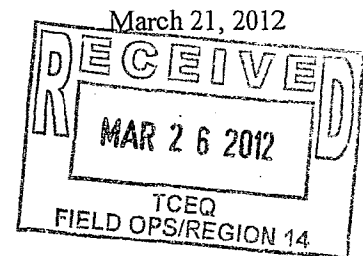


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TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

MR RANDY BLACK
MANAGER OF PRODUCTION OPERATIONS GCBU
BURLINGTON RESOURCES OIL & GAS COMPANY LP
600 N DAIRY ASHFORD ST
HOUSTON TX 77079-1100



Permit by Rule Registration Number: 100315
Location/City/County: From The Intx Of Hwy 72 & Hwy 119 In Yorktown Go N
On Hwy 119 For 2.7 Mi To Fm 108 On Right Follow Fm
108 For 2.8 Mi To Schultz Rd On Right Follow Schultz Rd
For 1.2 Mi To Simecek Rd Turn Right On Simecek Rd And
Go 0.9 Mi To Lease Entrance And Location On, Yorktown,
Dewitt County
Project Description/Unit: Bargmann Trust Unit B1 & Franz Unit A1
Regulated Entity Number: RN106314982
Customer Reference Number: CN602989436
New or Existing Site: New
Affected Permit (if applicable): None
Renewal Date (if applicable): None

Burlington Resources Oil & Gas Company LP has certified the emissions associated with the Bargmann Trust Unit B1 & Franz Unit A1 under Title 30 Texas Administrative Code §§§106.352 (effective 9/4/2000), 106.492 (effective 9/4/2000), 106.512 (effective 6/ 13/2001). For rule information see:

www.tceq.texas.gov/permitting/air/nav/numerical_index.html

Planned MSS emissions for 20 blowdowns have been reviewed. These authorized MSS emissions are included on the emissions table. No other planned MSS emissions have been represented or reviewed. The company is also reminded that these facilities may be subject to and must comply with other state and federal air quality requirements. In addition, under the General Requirements for all Permit by Rules, § 106.2 states that particular requirements only apply "where construction is commenced on or after the effective date of the relevant permit by rule."

All analytical data generated by a mobile or stationary laboratory to support the compliance with an air permit must be obtained from a NELAC (National Environmental Laboratory Accreditation Conference) accredited laboratory. For additional information regarding the laboratory accreditation program, please see the following Web site which includes the accreditation and exemption information:

www.tceq.texas.gov/compliance/compliance_support/qa/env_lab_accreditation.html

The Texas Commission on Environmental Quality (TCEQ) recommends that COMPANY perform site-specific analysis and recalculate emissions (if needed) to confirm that site wide emissions do not exceed the certified limits, within six months.

Mr. Randy Black
March 21, 2012
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This certification is taken under the authority delegated by the Executive Director of the TCEQ. If you have questions, please contact Ms. Sandya Bhaskara at (512) 239-4740.

Sincerely,



Anne M. Inman, P.E., Manager
Rule Registrations Section
Air Permits Division

Certified Emissions:

VOC	17.29	tpy
Formaldehyde	0.26	tpy
NO _x	11.86	tpy
CO	23.79	tpy
PM ₁₀	0.22	tpy
PM _{2.5}	0.22	tpy
SO ₂	0.34	tpy

cc: Air Section Manager, Region 14 - Corpus Christi

Project Number: 173035

TECHNICAL REVIEW: AIR PERMIT BY RULE

Permit No.:	100315	Company Name:	Burlington Resources Oil & Gas Company LP	APD Reviewer:	Ms. Sandya Bhaskara
Project No.:	173035	Unit Name:	Bargmann Trust Unit B1 & Franz Unit A1	PBR No(s):	106.352 2011-FEB-27, 106.492, 106.512

GENERAL INFORMATION			
Regulated Entity No.:	RN106314982	Project Type:	Permit by Rule Application
Customer Reference No.:	CN602989436	Date Received by TCEQ:	December 29, 2011
Account No.:		Date Received by Reviewer:	February 13, 2012
City/County:	Yorktown, Dewitt County	Physical Location:	From the intx of hwy 72 & hwy 119 in Yorktown go n on Hwy 119 for 2.7 mi to Fm 108 on right. Follow Fm 108 for 2.8 mi to schultz rd on right. Follow schultz rd for 1.2 mi to simecek rd. Turn right on simecek rd and go 0.9 mi to lease entrance and location on.

CONTACT INFORMATION					
Responsible Official/ Primary Contact Name and Title:	Randy Black Manager Of Production Operations Gcbu	Phone No.: Fax No.:	(832) 486-6508 (832) 486-6431	Email:	RANDY.C.BLACK@CON OCOPHILLIPS.COM
Technical Contact/ Consultant Name and Title:	James Woodall Sr Environmental Scientist	Phone No.: Fax No.:	(832) 486-6508 (832) 486-6431	Email:	JAMES.WOODALL@CON OCOPHILLIPS.COM
Technical Contact/ Consultant Name and Title:	Ms. Christina Chermak Project Engineer, Titan Engineering, Inc.	Phone No.: Fax No.:	(469) 365-1168 Not provided.	Email:	CChermak@TitanEngineerin g.com

GENERAL RULES CHECK	YES	NO	COMMENTS
Is confidential information included in the application?		X	No confidential information was submitted with the registration.
Are there affected NSR or Title V permits for the project?		X	There are no NSR or Title V permits for the site.
Is each PBR > 25/250 tpy?		X	See site-wide emissions table below.
Are PBR sitewide emissions > 25/250 tpy?		X	See site-wide emissions table below.
Are there permit limits on using PBRs at the site?		X	There are no NSR or Title V permits for the site.
Is PSD or Nonattainment netting required?		X	The site is not one of the 28 named sources, is not a PSD major source, and the total emissions are less than the PSD significance level (250 tpy). DeWitt County is attainment and the site is not major.
Do NSPS, NESHAP, or MACT standards apply to this registration?	X		COMPC01 engine is new RICE because it was constructed on 8/13/2001.
Does NOx Cap and Trade apply to this registration?		X	The site is not located in the Houston-Galveston-Brazoria nonattainment area.
Is the facility in compliance with all other applicable rules and regulations?	X		Burlington Resources Oil & Gas Company, L.P. claims that the site is compliance with all other applicable rules and regulations. Chapter 111: The flare should be operated with no visible emissions except periods not to exceed a total of five minutes during any two consecutive hours. Other stationary vents will not have visible emissions. Chapter 112: The site is sour and the H ₂ S concentration is 99 ppm. The company represented that the H ₂ S and SO ₂ emissions will be low. Screen modeling was provided. Chapter 115: DeWitt County is a covered attainment county. Transfer of oil and condensate is exempt in DeWitt county is exempt per 115.217(b)(1). Chapter 117: DeWitt County is an attainment county and is not located in the East Texas Combustion Area.

DESCRIBE OVERALL PROCESS AT THE SITE
Burlington Resources Oil & Gas Company, L.P. (Burlington) operates the Bargmann Trust Unit B1 & Franz Unit A1, a sour condensate and natural gas site near Yorktown, Dewitt County under Permits by Rule 106.352 (effective 2/27/2011), 106.492 (effective 9/4/2000) and 106.512 (effective 6/13/01). The site has two wells which will produce high pressure gas and liquids (condensate and produced water). The mixture extracted from the well will first pass through a higher pressure separator where the higher pressure gas will be collected and sent the pipeline. Liquids from the high pressure separator will then pass to a low pressure separator. Low pressure gas off of the low pressure separator will be sent through the compressor engine and is added to the high pressure pipeline. Pressurized liquids from the low pressure separator will be divided into both produced water and condensate streams. Condensate is routed to the condensate storage tanks (FINs TK-01 through TK-06), and produced water is routed to the produced water tank (FIN TK-08 and TK-09). The drop out condensate from compressor is routed to FIN TK-07. Tank emissions are routed to the flare (EPN FL-1) for 98% control. Periodically assist gas is sent to the flare to ensure that the waste gas stream can sustain combustion. The condensate and produced water are trucked offsite (FIN TRUCK1 and TRUCK2) and the emissions are controlled by the flare (EPN FL-1). The company included emissions from planned MSS in which low pressure separator gas (FIN SEP-GAS) is sent to the flare (EPN FL-1), which is estimated to occur 2% of the year. Other emissions include equipment leak fugitives (EPN FUG).

TECHNICAL REVIEW: AIR PERMIT BY RULE

Permit No.:	100315	Company Name:	Burlington Resources Oil & Gas Company LP	APD Reviewer:	Ms. Sandya Bhaskara
Project No.:	173035	Unit Name:	Bargmann Trust Unit B1 & Franz Unit A1	PBR No(s):	106.352 2011-FEB-27, 106.492, 106.512

DESCRIBE PROJECT AND INVOLVED PROCESS

Burlington submitted a Form PI-7-CERT to register and certify the current emission sources at the site for the first time.

OIL AND GAS FACILITY GENERAL INFORMATION

Natural Gas Throughput (MMSCF/day):	3000	H ₂ S Content of Inlet Gas:	99 ppm
Oil/Condensate Throughput (bbl/day):	1000	Is the gas sweet or sour?:	sour
Produced Water Throughput (bbl/day):	400	Is this site operational/producing?:	no; under construction
PI-7 or PI-7 CERT?	PI-7-CERT	Has the site been registered before?:	no

EQUIPMENT/PROCESSES AT SITE

Number of each:	Compressor Engines:	1	Glycol dehydrators:	—	VRU:	—
	Separators:	2	Amine units:	—	Other:	—
	Storage Tanks:	6 condensate tanks 1 slop tank 2 produced water tank	Heater/Treaters:	—	Other:	—
	Truck Loading:	2	Flares:	1	Other:	—

30 TAC §106.352 RULE CHECK

REQUIREMENTS	YES, NO, or n/a	OTHER / COMMENTS												
If the site conditions the natural gas (with a glycol dehydrator, amine unit, sulfur recovery unit, etc.), it handles less than two long tons per day of sulfur compounds (1 long ton = 2240 pounds). <i>Long tons per day sulfur compounds = (MMSCF/day of inlet gas)*(MW of inlet gas)*(H₂S wt fraction) (0.84896)</i>	n/a	The company represents that the produced gas is routed to the pipeline during normal operations.												
(1) All compressors will meet the requirements of 106.512.	Yes													
(1) All flares will meet the requirements of 106.492.	Yes	See 106.492 below.												
(2) Total emissions, including process fugitives, combustion unit stacks, separator, or other process vents, tank vents, and loading emissions from all such facilities constructed at a site under this section, will be equal to or below 25 tons per year (tpy) each of sulfur dioxide (SO ₂), all other sulfur compounds combined, or all volatile organic compounds (VOC) combined; and 250 tpy each of nitrogen oxide and carbon monoxide. Emissions of VOC and sulfur compounds other than SO ₂ must include gas lost by equilibrium flash as well as gas lost by conventional evaporation.	Yes													
(3) If the facility handles sour gas, it will be located at least 1/4 mile from any recreational area or residence or other structure not occupied or used solely by the owner or operator of the facility or the owner of the property upon which the facility is located.	Yes	The distance to the nearest offsite receptor is reported as 1400 feet, which is above the minimum distance required by 106.352(l)(3), (1,320 feet).												
(4) Total emissions of sulfur compounds, excluding sulfur oxides, from all vents will be equal to or below 4.0 pounds per hour (lb/hr).	Yes	Actual Sulfur Emissions = <u>0.05</u> lb/hr.												
(4) The height of each vent emitting sulfur compounds meets the following requirements, and is in no case less than 20 feet: (NOTE: other values may be interpolated) <table><tr><th>H₂S (lb/hr)</th><th>Minimum Vent Height (ft)</th></tr><tr><td>0.27</td><td>20</td></tr><tr><td>0.60</td><td>30</td></tr><tr><td>1.94</td><td>50</td></tr><tr><td>3.00</td><td>60</td></tr><tr><td>4.00</td><td>68</td></tr></table>	H ₂ S (lb/hr)	Minimum Vent Height (ft)	0.27	20	0.60	30	1.94	50	3.00	60	4.00	68	Yes	Actual Flare Vent Height = <u>30</u> feet. Truck loading and fugitives are not considered vents.
H ₂ S (lb/hr)	Minimum Vent Height (ft)													
0.27	20													
0.60	30													
1.94	50													
3.00	60													
4.00	68													
(5) If the site handles sour gas, the company will register the site by submitting Form PI-7 or PI-7-CERT before operations begin.	Yes													

STORAGE TANKS

Tank Identifier (EPN)	Capacity of Tank	Throughput (bbl/day)	Contents of Tank	Working and breathing Loss Calculation Method	Flash Loss Calculation Method	Comments
FL-1 (TK-01 through TK-06)	500 bbl	1000	Condensate	AP-42	WINSIM	Flash emissions: Total VOC = 146.91 TPY (uncontrolled)

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FL-1 (TK-07)	500 bbl	16.44	slop tank	AP-42	Not provided	
FL-1 (TK-08 & TK-09)	500 bbl	400	PW tank	AP-42	WINSIM	Flash emissions: Total VOC = 5.52 TPY (uncontrolled)

STORAGE TANKS AP-42 (FOR ESTIMATING WORKING AND BREATHING LOSSES FROM STORAGE TANKS)						
Tank Identifier (EPN)	Throughput (gallons/year)	Turnovers per year	Mixture/Component	Reid vapor pressure	Vapor MW	Results (T/year) (Uncontrolled)
TK-01 through TK-06	15,330,000	730*	Condensate	36	11.64	36.58
TK-07 - Slop	252,000	12	Slop	36	11.64	4.58
TK-08 & TK-09 - PW	6,132,000	292	PW	36	0.116	0.03
Please explain any controls or reductions in calculated emissions:			Flare control is used at 98% collection and destruction efficiency.			

*Annual throughput / tank size = (365k bbl*42gal)/(500bbl*42gal)

TANKS 4.0 SOFTWARE [FOR ESTIMATING WORKING AND BREATHING LOSSES FROM STORAGE TANKS]						
Tank Identifier (EPN)	Throughput (gallons/year) (pg. 1 of report)	Turnovers per year (pg. 1 of report)	Mixture/Component (pg. 2 of report)	Basis for VP Calculations (pg. 2 of report)	Vapor MW (pg. 2 of report)	Results (lb/year) (last page of report)
TK-LO	6000	12	Lube Oil	Option 1	190	0.00
TK-AF	3600	12	Antifreeze Liquid	Option 2	32.04	14.89

TRUCK LOADING [EMISSIONS CALCULATED USING $L_L = (12.46)(S)(P)(M)(T)$ EQUATION FROM AP-42, SECTION 5.2.4]									
What is being Loaded	S	P (psia)	M (lb/lb-mole)	T (°R)	L_L (lb VOC/1000 gallons loaded)	Hourly Loading Rate (gallons/hour)	Annual Loading Rate (gallons/year)	Hourly Emissions (lb/hr)	Annual Emissions (tpy)
TRUCK1 (Condensate & slop)	1.00	11.64	36	560	9.324	8190	15582000	76.36*0.02 = 1.53	15582000 *9.53*0.02/2000 = 1.49
TRUCK2 (PW tank)	1.00	0.116	36	560	0.093	8190	6132000	0.76	0.30
Please explain any controls or reductions in calculated emissions:					Collection efficiency for DOT tested-trucks = 98% collection efficiency. 1.53 lb/hr, 1.49 tpy represents uncollected emissions. 74.83 lb/hr, 71.15 tpy are collected and sent to the flare = 98% control efficiency. The company claims that "The trucks are DOT tested. Also, the 1.00 S factor is conservative compared to the 0.60 when applied through the equation".				

FUGITIVES [EMISSIONS CALCULATED USING EMISSION FACTORS FROM EPA DOCUMENT 4531, R-95-017, Table 2-4]										
	Valves	Flanges	Connectors	Open End lines	Pump Seals	Other (Comp)	VOC content of stream (weight %)	H ₂ S content of stream (weight %)	VOC Emissions (tpy)	H ₂ S Emissions (tpy)
Gas Service Component Count	94	156	180			1	25	0.02	1.28	0.0012
Light Oil Component Count	86	77	179			--	100	--	2.51	--
Heavy Oil Component Count	--	--	--			--	--	--	--	--
Water/Oil Component Count	99	20	206		1	--	--	--	0.3102	--
TOTAL:									4.1	0.001
If VOC content of gas stream <100%, was inlet or other laboratory gas analysis included?		Yes	Date of Sample:	07/22/2010	VOC:TOC ratio from lab analysis (wt %):		25	H ₂ S:TOC ratio from lab analysis (wt %):		0.02
If VOC content of liquid stream <100%, was a liquid laboratory analysis included?		Yes	Date of Sample:	6/24/2010	VOC:TOC ratio from lab analysis (wt %):		100	H ₂ S:TOC ratio from lab analysis (wt %):		--
FLARE										
Process or Emergency flare?		Process flare			NOx emission factor used:			0.138		
Steam assisted (yes/no)?		Yes			CO emissions factor used:			0.2755		
VOC Destruction Efficiency: (must justify if over 98%)		98%			H ₂ S Destruction Efficiency:			98%		

TECHNICAL REVIEW: AIR PERMIT BY RULE

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Project No.:	173035	Unit Name:	Bargmann Trust Unit B1 & Franz Unit A1	PBR No(s):	106.352 2011-FEB-27, 106.492, 106.512

Sources of emissions routed to flare	Flow Rate of Each Source (SCF/hour)	Heat Content of Each Source (Btu/SCF)	H ₂ S Emissions From Each Source (lb/hr)	VOC Emissions From Each Source (lb/hr)
Pilot Combustion	15	1235	0.0005	0.005
Flare assist gas combustion	1250	1292	0.05	0.5
Process flare – Condensate, slop & Truck1	4873 scf/hr*	1890	0.005	273.46
Process flare – PW tanks and Truck2 loading	706.26 scf/hr	1869	0.0002	40.07
Process flare – Inlet gas to flare	124987.85 scf/hr	1235	=0.03/0.02 = 1.5	=35.9/0.02 = 1795

*4873 scf/hr = 9.21MMBtu/hr / 1890 Btu/scf

30 TAC §106.512 RULE CHECK		
REQUIREMENTS	YES, NO, or n/a	OTHER / COMMENTS
(1) The engines or turbines have been registered with Form PI-7 or PI-7-CERT within 10 days of the start of construction. Engines and turbines rated less than 240 horsepower (hp) need not be registered, but must meet paragraphs (5) and (6) of this section, relating to fuel and protection of air quality.	Yes	Horsepower of engine(s) = <u>400 HP</u>
(1) Table 29 has been submitted for each proposed gas or liquid fuel-fired stationary internal combustion reciprocating engine.	Yes	
(1) Table 31 has been submitted for each proposed gas turbine.	n/a	No turbines used at this site.
(2) Any engines rated greater than 500-hp will meet the requirements of subparagraphs (A) - (C) of this paragraph.	n/a	Compressor Engine 1 is rated at 400 HP, and therefore this subpart does not apply.
(2)(A) Emissions of nitrogen oxides (NO _x) will not exceed the following limit: Check which limit applies:		Actual NO _x Emissions = <u> </u> g/hp-hr
(2)(A)(i) 2.0 grams per horsepower-hour (g/hp-hr) under all operating conditions for any gas-fired rich-burn engine;		
(2)(A)(ii) 2.0 g/hp-hr at manufacturer's rated full load and speed, and other operating conditions, except 5.0 g/hp-hr under reduced speed, 80-100% of full torque conditions, for any spark-ignited, gas-fired lean-burn engine, or any compression-ignited dual fuel-fired engine manufactured new after June 18, 1992;		
(2)(A)(iii) 5.0 g/hp-hr under all operating conditions for any spark-ignited, gas-fired, lean-burn two-cycle or four-cycle engine or any compression-ignited dual fuel-fired engine rated 825 hp or greater and manufactured after September 23, 1982, but prior to June 18, 1992;		
(2)(A)(iv) 5.0 g/hp-hr at manufacturer's rated full load and speed and other operating conditions, except 8.0 g/hp-hr under reduced speed, 80-100% of full torque conditions for any spark-ignited, gas-fired, lean-burn four-cycle engine, or any compression-ignited dual fuel-fired engine that was manufactured prior to June 18, 1992, and is rated less than 825 hp; or was manufactured prior to September 23, 1982;		
(2)(A)(v) 8.0 g/hp-hr under all operating conditions for any spark-ignited, gas-fired, two-cycle lean-burn engine that was manufactured prior to June 18, 1992, and is rated less than 825 hp; or was manufactured prior to September 23, 1982;		
(2)(A)(vi) 11.0 g/hp-hr for any compression-ignited liquid-fired engine.		
(2)(B) The engine requires an automatic air-fuel ratio (AFR) controller in order to meet the NO _x limits in subparagraph (2)(A).		
(2)(B) The engine requires an automatic air-fuel ratio (AFR) controller in order to meet the following requirements: An AFR controller shall be deemed necessary for any engine controlled with a non-selective catalytic reduction (NSCR) converter and for applications where the fuel heating value varies more than ± 50 British thermal unit/standard cubic feet from the design lower heating value of the fuel. If an NSCR converter is used to reduce NO _x , the automatic controller shall operate on exhaust oxygen control.		
(2)(C) The records specified in (2)(C) of this PBR will be created and maintained by the owner or operator for a period of at least two years, made available, upon request, to the commission and any local air pollution control agency having jurisdiction.		
(3) Any gas turbine rated greater than 500-hp will meet the requirements of subparagraphs (A) and (B) of this paragraph.	n/a	Horsepower of turbine(s) = <u> </u>
(3)(A) Emissions of NO _x will be less than or equal to 3.0 g/hp-hr for gas-firing.		Actual NO _x Emissions = <u> </u> g/hp-hr

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(3)(B) The turbine meet all applicable NO _x and sulfur dioxide (SO ₂) (or fuel sulfur) emissions limitations, monitoring requirements, and reporting requirements of NSPS Subpart GG—Standards of Performance for Stationary Gas Turbines.																											
(4) Any engine or turbine rated less than 500 hp or used for temporary replacement purposes is exempt from the emission limitations of paragraphs (2) and (3) above. Temporary replacement engines or turbines shall be limited to a maximum of 90 days of operation after which they shall be removed or rendered physically inoperable.	Yes	Horsepower= <u>400</u> Temporary? <u>No</u>																									
(5) The gas fuel will be limited to: sweet natural gas or liquid petroleum gas, fuel gas containing no more than ten grains total sulfur per 100 dry standard cubic feet, or field gas.	Yes	Type of fuel= <u>Field gas</u> Sulfur content of fuel gas (gr/100 dSCF): <u>= 10 ppmv/10000*626</u> <u>= 0.626</u>																									
(6) Compliance with National Ambient Air Quality Standard (NAAQS) in the area of the proposed facility has been demonstrated.		Which method was used (A, B, or C)? <u>A</u> <i>Delete rows below that are not needed.</i>																									
(6)(A) Ambient sampling or dispersion modeling, accomplished pursuant to guidance obtained from the executive director, was used to demonstrate NAAQS:																											
<table border="1"> <thead> <tr> <th>Engine Identifier / EPN</th> <th>Max. Hourly Concentration of NO₂/NO_x (from Screen3 modeling) (µg/m³)</th> <th>Max. Annual Concentration of NO₂/NO_x (Max. Hourly Conc. X 0.08) (µg/m³)</th> <th>NO₂/NO_x Ratio (from table below)</th> <th>Annual NO₂ Concentration (Max. Annual Conc. X NO₂/NO_x Ratio) (µg/m³)</th> </tr> </thead> <tbody> <tr> <td>COMP-01</td> <td>43.34</td> <td>3.4672</td> <td>0.4</td> <td>1.3868</td> </tr> <tr> <td colspan="4">Background Concentration for County =</td> <td>20</td> </tr> <tr> <td colspan="4">TOTAL =</td> <td>21.3868</td> </tr> <tr> <td colspan="4">Is total below NAAQS limit for NO₂ of 100 µg/m³ (yes/no)?</td> <td>Yes</td> </tr> </tbody> </table>			Engine Identifier / EPN	Max. Hourly Concentration of NO ₂ /NO _x (from Screen3 modeling) (µg/m ³)	Max. Annual Concentration of NO ₂ /NO _x (Max. Hourly Conc. X 0.08) (µg/m ³)	NO ₂ /NO _x Ratio (from table below)	Annual NO ₂ Concentration (Max. Annual Conc. X NO ₂ /NO _x Ratio) (µg/m ³)	COMP-01	43.34	3.4672	0.4	1.3868	Background Concentration for County =				20	TOTAL =				21.3868	Is total below NAAQS limit for NO ₂ of 100 µg/m ³ (yes/no)?				Yes
Engine Identifier / EPN	Max. Hourly Concentration of NO ₂ /NO _x (from Screen3 modeling) (µg/m ³)	Max. Annual Concentration of NO ₂ /NO _x (Max. Hourly Conc. X 0.08) (µg/m ³)	NO ₂ /NO _x Ratio (from table below)	Annual NO ₂ Concentration (Max. Annual Conc. X NO ₂ /NO _x Ratio) (µg/m ³)																							
COMP-01	43.34	3.4672	0.4	1.3868																							
Background Concentration for County =				20																							
TOTAL =				21.3868																							
Is total below NAAQS limit for NO ₂ of 100 µg/m ³ (yes/no)?				Yes																							
(7) The engine or turbine <u>will not</u> be used to generate electricity.	Yes																										

NATURAL GAS FIRED COMPRESSOR ENGINE

Engine Identifier (EPN / name)	Engine Information		Pollutant	Source of Emission factor	Emission Factor before controls	Type of Control Device	Control efficiency	Emission Factor after controls	Emissions (lb/hr)	Emissions (tpy)
COMP-01	Horsepower:	400	NMNEHC		1.00 g/hp-hr	NSCR Catalyst		0.05 g/hp-hr	0.06	0.26
	Fuel Consumption (Btu/hp-hr):	7008	NO _x		2.00 g/hp-hr	NSCR Catalyst		0.2 g/hp-hr	1.76	7.71
	2 or 4 stroke, Rich or Lean Burn:	4 stroke Rich burn	CO		4.00 g/hp-hr	NSCR Catalyst		0.3 g/hp-hr	3.53	15.46
	Hours of Operation per year:	8760	PM ₁₀		0.01941 lb/MMBtu				0.05	0.22
	Vendor Data Sheet Included? (required if ≥ 500-hp)	Yes	SO ₂		10 Ppm S				0.004	0.02
	Date of Manufacture or Reconstruction:	8/13/2001	CH ₂ O		0.0205 lb/MMBtu				0.06	0.26
Does NSPS, Subpart JJJJ apply?		No	Why or why not? If yes, how will requirements be met?			The engine manufacture date is 8/13/2001				
Does MACT, Subpart ZZZZ apply?		Yes	Why or why not? If yes, how will requirements be met?			Yes applicable as RICE is located at an area source of HAPs.				

*** Emission rates reported by the company were calculated using emission factors from NSPS JJJJ applicability emission limits. As a conservative approach, the reviewer is ok with higher emission factors used.

EPN / Description	Screen 3 model distance	Maximum Hourly Concentration of NO _x (from screen 3 model)
COMP-01		= 43.34* 0.4 = 17.336
Background Concentration of Region / County =		70 ug/m3 - DeWitt County / Region 14
Total =		87.336
Is the total limit below the hourly NAAQS Limit of 188 ug/m3 (yes/no)?		Yes

TECHNICAL REVIEW: AIR PERMIT BY RULE

Permit No.:	100315	Company Name:	Burlington Resources Oil & Gas Company LP	APD Reviewer:	Ms. Sandya Bhaskara
Project No.:	173035	Unit Name:	Bargmann Trust Unit B1 & Franz Unit A1	PBR No(s):	106.352 2011-FEB-27, 106.492, 106.512

COMMUNICATION LOG					
Date	Time	Name/Company	Subject of Communication		
2/13/2012	9:10 AM	from: AirOG / TCEQ Rule Registrations Section to: Mr. James Woodall/Manager of Production Operations-GCBU cc: Ms. Christina Chermak/ TITAN Engineering cc: Ms. Margaret Schell / TCEQ Rule Registrations Section Technical Reviewer	<p>E-mail: The TCEQ has received 18 registrations for the following sites.</p> <p>G Klein E1 & R Mesichen B1 Multipad Jack Unit A1 & W Laske Unit A1 Taylor Unit A1 & Thiele Unit A1 Janysek Unit A1 SWF Hooks Unit A1 Guerra Unit A1 & B1 DWF Klaevemann Unit A1 SWF Lackey Unit A1 Willeke Unit B1 SWF Butler Unit D1 Bingham Unit A1 JJJ Ranch Unit A1 J Respondek Unit A1 & Vasbinder Unit A1 R Borchardt Unit B1 & C1 Multipad Bargmann Trust Unit B1 & Franz Unit A1 Maurer Unit A1 and B1 Multipad June Day Unit A1 & B1 Multipad Pullin Unit A1</p> <p>We are prioritizing applications based on whether the company has started construction. Please respond to confirm if the company has implemented the project or if it is waiting on a response from the TCEQ before starting construction. If you have any updates to the project listed above, please send them in now. After an initial review of the registration, the following information is needed:</p> <p>General Items for All Projects:</p> <ol style="list-style-type: none"> 1. The gas and liquid analyses used as the basis of the emission calculations came from another site. Address each of the criteria in the Representative Analysis Protocol for determining if an analysis can be considered representative (http://www.tceq.texas.gov/assets/public/permitting/air/NewSourceReview/oilgas/rep-analysis-criteria.pdf). In addition, since the site is sour, describe how the H₂S concentration at the actual site was determined in the gas and liquid streams at the site. 2. Confirm and update the PI-7-CERT form with the actual distance from the nearest facility on the site to the nearest offsite receptor. At the moment, the form indicates the distance is >50 feet. Therefore, it is not possible to confirm if the site is at least the minimum distance required by 106.352(l)(3). 3. The truck loading emission calculations did not include a control efficiency to account for emissions lost during truck loading operations. Some emissions are not collected and will not make it to the control device. See the capture/collection efficiencies for the type of trucks used in the Truck Loading guidance at: http://www.tceq.texas.gov/assets/public/permitting/air/NewSourceReview/oilgas/tank-truck-load.pdf. In addition, it is unclear based on the Process Flare Waste Gas Combustion Emissions (page 3-35), if the emissions from truck loading were accounted for as one of the waste gas streams to the flare. 4. Indicate when the control device goes offline for maintenance and what happens to the emissions from the sources it controls during the offline time. This scenario is considered an alternate operation scenario, and the emissions need to be accounted for in the registration. 5. There are many places in the application that indicate that "maintenance and upset events" are included in the registration. If including planned maintenance, startup, and shutdown emissions include a description of each activity and its frequency and duration. Emergency and upset events are not authorized and instead are required to follow the requirements in 30 TAC 101.211. <p>Sites with Compressor Engines:</p> <ol style="list-style-type: none"> 6. Indicate the manufacturer date of the engine to determine if it is subject to NSPS Subpart JJJ. There are new limits for engines manufactured after January 1, 2011 (http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr;sid=f0d22a5ac1b2e7e598a3299053184150;rgn=div6;view=text;node=40%3A6.0.1.1.1.100;idno=40;cc=ecfr). In addition, provide the catalyst control manufacturers technical sheet to confirm the post-control emission rates. Please note that these items constitute an initial review only. A complete and accurate response is requested within five business days of the date of this e-mail. If a complete and accurate response is not received, then a deficiency letter will be issued allowing the company up to six months in which to respond without an additional registration fee. Further information about this avoidance process may be found at: http://www.tceq.texas.gov/assets/public/permitting/air/memos/voidguide06.pdf 		
2/13/2012	11:13 AM	from: Ms. Christina Chermak/ TITAN	E-mail: Margaret- We received the list of questions below. I did want to mention that we have		

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Permit No.:	100315	Company Name:	Burlington Resources Oil & Gas Company LP	APD Reviewer:	Ms. Sandya Bhaskara
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		Engineering to: Ms. Margaret Schell / TCEQ Rule Registrations Section Technical Reviewer	updates prepared for all the ones regarding the engine question (#6) in the list below. Unfortunately, our office building has no electricity this morning due to the freezing temperatures and a water leak up here in Dallas, so I am unable to access them off of the server. Once electricity is restored we'll be able to mail them to you. We will address the other questions on this list as well. Thank you, Christina Chermak, E.I.T, LEED AP, Project Manager
2/13/2012	11:21 AM	from: Ms. Margaret Schell / TCEQ Rule Registrations Section Technical Reviewer to: Ms. Christina Chermak/ TITAN Engineering	E-mail: That sound like a good plan. Keep warm.
2/14/2012	2:47 PM	from: Ms. Christina Chermak/ TITAN Engineering to: Ms. Margaret Schell / TCEQ Rule Registrations Section Technical Reviewer	E-mail: Hi Margaret, We are still having the electrical issue at the office and do not have normal access to our server, but our IT director was able to pull key files for us. The attached are the updates that were ready for you over the weekend, which should answer the engine applicability question (#6) in the email that was sent yesterday. There are 2 more sites that I know of that we will need to answer that question on but unfortunately I was not able to retrieve the files needed to send you this update. As soon as we get electrical in our building again we'll send those too (hopefully tomorrow) in addition to a response to the other questions in the list. Attached Information for Pullin Unit B1, June Day A1 B1, Hooks A1, J Respondek a! & Vabinder A1, Jack young A1 & W Leske A1, Willeke B1 SWF, and Bargmann Trust B1 & Franz A1.
2/14/2012	2:55PM	from: Ms. Christina Chermak/ TITAN Engineering to: Ms. Margaret Schell / TCEQ Rule Registrations Section Technical Reviewer	E-mail: Also, please note that RN 106314552 (Jack Young A1 and W.Leske A1) seems to have been entered into the system incorrectly- the central registry has typos in the name. Thank you!
2/15/2012	3:02 PM	from: Ms. Christina Chermak/ TITAN Engineering to: Ms. Margaret Schell / TCEQ Rule Registrations Section Technical Reviewer	E-mail: Margaret- They have restored power to the building, and our server came up late this morning, so we should be back to normal! The remaining Burlington Engine clarifications are attached which should answer your question number 6 in the email sent on Monday. We will work on getting you the other requested information shortly. Thank for your understanding during the power outage! Attached Information for: Lackey A1, Pullin A1, Maurer A1 & B1, and R. Borchardt B1 & C1.
2/22/2012	11:30 AM	Mr. James Woodall/Manager of Production Operations-GCBU	Mr. Olivier and Ms. Schell called and left a message with Mr. Woodall about the 18 Burlington projects being reviewed.
2/22/2012	2:00 PM	Ms. Christina Chermak/ TITAN Engineering	Mr. Olivier and Ms. Schell called and spoke with Ms. Chermak about the 18 Burlington projects currently under review. A deficiency letter will be issued since all of the information requested in the e-mail on February 13 was not provided by the close of business on February 21.
2/22/2012	3:58 PM	from: Ms. Christina Chermak/ TITAN Engineering to: Ms. Margaret Schell / TCEQ Rule Registrations Section Technical Reviewer	Margaret- Can you please review the responses below to make sure you are ok with how we plan to move forward with these sites? Just a note- I did check on those 2 that you thought the numbers were blurred out, and actually that is from us highlighting the values used, so I bet your PDF reader and ours just aren't compatible and the highlight has come across as a blur or darkened out. I'll be sure that's not done on future submittals. I've modified our answers below slightly since our phone call now that you've decided to issue the deficiency for the 18 sites in question. 1. Please note that the Eskew North data was used as a representative analysis due to its proximity to the sites to be constructed that were submitted. Additionally, this site is located in the same shale and its production characteristics are anticipated to be similar and representative to the sites we have turned in for PBR registration. Because these sites are still being constructed and wells have yet to be drilled, Burlington Resources was using the best available representative data in that area. Since the date of the original submittal of these sites, Burlington has continued to take samples so that even more area and site specific data may be used in the future. Because you are asking us to resubmit each of these, we will go back and incorporate the new representative samples that have been taken since the date of the original submittal. H ₂ S concentrations were determined using known meter readings on tank headspace vapors from similar sites in the area. The 99 ppm H ₂ S shown in the application was a conservative estimate based on tank headspace meter readings from sites in the same area. Once again, because we are being asked to re-submit we will now use more site specific data which has since been made available due to increased reading efforts in the area. Supporting documentation will be provided to show where the meter sample was taken, compared to where the site from the application is found. Applying the meter reading to all gas emissions on site will provide a conservative estimate for the H ₂ S at each site, seeing as how the headspace readings will be higher than other gas used on site. Please note that this is in an effort to comply with the TCEQ guidance on representative samples in the most conservative manner possible, but by nature a site cannot be sampled before it is drilled and this request is impossible if permits are to be submitted before construction begins. Therefore

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Project No.:	173035	Unit Name:	Bargmann Trust Unit B1 & Franz Unit A1	PBR No(s):	106.352 2011-FEB-27, 106.492, 106.512

			<p>Burlington is applying the most conservatively feasible practices when assigning representative samples to applications.</p> <ol style="list-style-type: none"> We have been able to confirm that the sites listed are further than 1320 feet from the nearest receptor, and the PI-7 should have stated >1320. We will update accordingly with the re-submittals. Per the guidance documentation provided by the TCEQ the loading operations at these sites would qualify for a capture and control efficiency of 98.7%. Because the 98% reduction percentage included in the submittals is conservative we would prefer to remain with that number. Therefore, the only change required is to acknowledge that the percentage represented there is actually both for capture and control, not just control. And yes, the loading is included with the flare feed rates, as represented on pages 3-36 and 3-37 you will see that the truck loading emissions are accounted for appropriately. The values from these pages are then what is used in the waste gas page 3-35. Under normal operations, the control device is designed to continue operations all year. If the device ever goes down it will not be for maintenance, it will be an upset event and the wellhead will be shut in momentarily. The maintenance events associated with engine downtime are included in the registration, which is actually not required until January of 2014, but Burlington Resources has chosen to include this information in order to begin the development of MSS permitting structure in compliance with the new TCEQ rules. As previously mentioned, any wording that states "maintenance and upset" event in the permit applications should now read "maintenance event". The term "upset" was included inadvertently. All engine questions should now be addressed with the updated submittals made prior to this email.
2/23/2012	10:00 AM	Ms. Anne Inman/ TCEQ	<p>Mr. Olivier spoke with Ms. Inman about the 18 pending projects and the response received from Ms. Chermak on 2/22 at 3:58 PM. Ms. Inman said the company had the following options:</p> <ul style="list-style-type: none"> sites with engines with no response; cannot confirm and will be deficient sites without engines and based on a representative analysis: the company may choose to have the projects issued and a sentence will be added to the letter about obtaining site-specific data within six months or they can voided and the company may revise the authorizations based on newer more site-specific data.
2/23/2012	11:00 AM	Mr. James Woodall/Manager of Production Operations-GCBU	<p>Mr. Olivier called and spoke with Mr. Woodall.</p> <p>Item 1: Mr. Woodall said that the company is continuing to drill test bores in order to obtain gas composition in order to report it to the Railroad Commission.</p> <p>Item 2: Mr. Woodall said that the company is telling its staff to include the actual distance on the registration forms to confirm the distance to the nearest offsite receptor is 1/4 mile or more for sour sites.</p> <p>Item 3: The reviewer confirmed Ms. Chermak's explanation for how the truck loading emissions were calculated. Mr. Woodall also said that the company uses DOT tested trucks that are checked annually, which can achieve 100% collection efficiency. Therefore, assuming a 98% collection efficiency as Ms. Chermak assumed will be conservative. Of the 98% of the collected vapors, 98% will be destroyed by the flare.</p> <p>Item 4: The reviewer went over what is considered an alternate operating scenario. If the site continues to operate while the control device is offline (the flare), then those emissions need to be included in the authorization. The maintenance emissions would be the emissions associated with the maintenance activities on the flare.</p> <p>Item 5: Mr. Woodall said that the consultant included the word upset in the application. He said that the emissions are from maintenance events and that he has told his staff to not include upset in applications since that creates confusion. He is aware the upset and emergency events should follow the requirements in 30 TAC Chapter 101.211.</p> <p>Item 6: The reviewer went over the sites with engines and the information needed to confirm the requirements of NSPS Subpart JJJJ.</p>
2/23/2012	3:04 PM	from: Mr. Marc Olivier / TCEQ Rule Registrations Section Work Leader to: Mr. James Woodall/Manager of Production Operations-GCBU cc: Ms. Christina Chermak/ TITAN Engineering	<p>Email: Attached is the list of 32 sites that we were talking about this afternoon for which the distance to the nearest offsite receptor needs to be confirmed to be at least 1/4 mile since they are sour sites. With a confirmation that they meet the requirements, we will continue to process them rather than include them in the deficiency e-mail for the Hooks Unit A1. Please confirm the distances by tomorrow. If any do not meet, we will add them to the deficiency letter as we spoke about this afternoon.</p>
2/28/2012	3:33 PM	from: Christina Chermak/ TITAN Engineering to: Mr. Marc Olivier / TCEQ Rule Registrations Section Work Leader	<p>Ms. Chermak identified the receptor distances in the attached excel spreadsheet. There were eight sites where the distance could not be confirmed: Pullin Unit A1, Janysek Unit A1 SWF, Hooks Unit A1, J Respondek Unit A1 & Vasbiner Unit A1, Jack Unit A1 & W Laske Unit A1, Taylor Unit A1 & Thiele Unit A1, Lackey Unit A1, and the 1893 Oil & Gas Ltd Unit B1.</p>

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Permit No.:	100315	Company Name:	Burlington Resources Oil & Gas Company LP	APD Reviewer:	Ms. Sandya Bhaskara
Project No.:	173035	Unit Name:	Bargmann Trust Unit B1 & Franz Unit A1	PBR No(s):	106.352 2011-FEB-27, 106.492, 106.512

		cc: Mr. James Woodall/Manager of Production Operations-GCBU	
2/28/2012	3:43 PM	from: Mr. James Woodall/Manager of Production Operations-GCBU to: Mr. Marc Olivier / TCEQ Rule Registrations Section Work Leader cc: Ms. Christina Chermak/ TITAN Engineering	As we had spoke about on the phone, please send out deficiency letters for the sites where we have not provided receptor distance data. A few of these I'm having to confirm land ownership with COP engineering techs and I won't be able to provide that today. We will respond to the deficiency with the data or submit a standard permit should the receptors not be exempted and are found to be within 1/4 mile. Though we are not sure that all of these sites will be sour, we are considering worst case scenarios from nearby sites where we have found the associated gas to have H ₂ S concentrations above 24 ppm in the tank headspace.
3/14/2012	1:50 PM	From: Sandya Bhaskara / TCEQ Rule Registrations Section To: Ms. Christina Chermak/ TITAN Engineering Cc: Mr. James Woodall/Manager of Production Operations-GCBU Mr. Monico Banda / Technical specialist / TCEQ Rule Registrations Section	Email: Ms. Chermak I am reviewing R. Borchardt unit B1 & C1 multipad Burlington PBR (and similar other Burlington PBR's) and I wanted to get clarifications about the following items: Analysis: Gas molecular weight of 36 is used in calculation of truck loading PTE, calculation of tanks PTE and for various other calculations. We didn't find this value in the gas analysis provided. Please give us a reference for the MW used. Representative analysis: Eskew North & Laird B1: I didn't see H ₂ S concentration in the liquid stream composition. Is a scavenger used in the process to remove H ₂ S from the liquid stream. If not, Pls. provide new representative liquid sample analysis with H ₂ S concentration included. Tanks: Pls. confirm the condensate, PW and slop tank dimensions. The following values were reported in the calculation of storage tank working and breathing PTE: Tank Dia: 12 ft; Tank Height: 20 ft. But these values doesn't sum up to the working volume of 500 bbl. Which method of calculation is used for condensate, PW and slop tank working and breathing losses? Does a Tanks 4.0 report available for the same. Fugitives: What VOC weight % is used for water/oil mixture in fugitive calculations? Flare: The H ₂ S emission rate is not mentioned in the flare emissions summary and final emissions summary report. As per the TCEQ guidance, when a facility/site is certified, we assume 98% conversion of H ₂ S to SO ₂ as a conservative approach. Hence H ₂ S emissions for flare needs to mentioned in the final emission summary report and flare emissions. Actual flare vent height is reported as >30 ft. Can we get the actual height? Truck loading: An S factor of 1.00 (Dedicated vapor balance) is used for truck loading calculation. Do you implement vapor balance for truck loading? Also, Pls. provide Natural gas throughput value.
3/14/2012	2:35PM	from: Christina Chermak/ TITAN Engineering to: Sandya Bhaskara / TCEQ Rule Registrations Section cc: Mr. James Woodall/Manager of Production Operations-GCBU	Email: Sandya- (I'm sorry if you received this twice, I got an error message the first time I sent it) Please find answers to your questions below. Let me know if you need any further clarification on these. Thank you! Analysis: Gas molecular weight of 36 is used in calculation of truck loading PTE, calculation of tanks PTE and for various other calculations. We didn't find this value in the gas analysis provided. Please give us a reference for the MW used. -The vapor molecular weight used was pulled from the outputs of the WinSim simulation software, which has previously been approved by TCEQ guidance. As you can see on the software reports- stream 2 for both Condensate and produced water is the flash stream. The Molecular Weight of that stream is highlighted, and is what was used to represent the gas coming off the condensate and produced water emissions and loading. This is a more accurate representation of the actual off-gasses than using the inlet gas analysis. Representative analysis: Eskew North & Laird B1: I didn't see H ₂ S concentration in the liquid stream composition. Is a scavenger used in the process to remove H ₂ S from the liquid stream. If not, Pls. provide new representative liquid sample analysis with H ₂ S concentration included. -Previously we have been working with Marc Olivier and Margaret Schell on these and have discussed the H ₂ S situation representations with them. Essentially, to represent H ₂ S on the site, we have used conservative representations of meter readings coming from area tank batteries, and thus applied that back to the inlet gas. Most of these wells have not yet been drilled and therefore it is not possible to take a site specific analysis and submit the permits in an orderly fashion. Therefore, we are using representative samples from the nearby region which are conservatively representing the site. Since the 99ppm is based on the tanks off gas, it is a conservative representative of the inlet. As more sites are developed and wells drilled Burlington Resources is continuing to take meter readings to ensure that the most accurate representations are included in permits. Please discuss with Marc Olivier and Margaret Schell if we need to provide any further explanation on this. Tanks: Pls. confirm the condensate, PW and slop tank dimensions. The following values were reported in the calculation of storage tank working and breathing PTE: Tank Dia: 12 ft; Tank Height: 20 ft. But these values doesn't sum up to the working volume of 500 bbl. -The height should have said 25 ft, which then adds up to 500 bbl. Which method of calculation is used for condensate, PW and slop tank working and breathing losses? Does a Tanks 4.0 report available for the same. -As mentioned on page 3-7 of the submittal, the working/breathing losses are calculated using

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			<p>EPA provided equations in AP-42. This is a TCEQ approved method via previous guidance. Fugitives: What VOC weight % is used for water/oil mixture in fugitive calculations?</p> <p>-The TCEQ Technical Guidance Document for Equipment Leak Fugitives dated October 2000 states on page 6 of 55 that the Water/Light Oil factors are created already considering that the stream includes between 50%-99% water. For that reason we have received prior TCEQ guidance that once again applying the VOC% to the calculation would be double counting the reduction. Therefore the percentage is not included.</p> <p>Flare: The H2S emission rate is not mentioned in the flare emissions summary and final emissions summary report. As per the TCEQ guidance, when a facility/site is certified, we assume 98% conversion of H2S to SO2 as a conservative approach. Hence H2S emissions for flare needs to mentioned in the final emission summary report and flare emissions.</p> <p>-The H2S emissions are coming from the tank off gas. The 98% captured and converted at the flare to SO2 is represented on the Flare Calculations pages 3-38 through 3-40 of the submittal. The 2% not captured and converted is shown on the tanks summary page, but assigned to the Flare EPN (page 3-7). The summary page includes this as well. So the emissions are accurately represented, the calculations just present them in the way that we believed most easily followed the streams progression through the site.</p> <p>Actual flare vent height is reported as >30 ft. Can we get the actual height?</p> <p>-30 ft.</p> <p>Truck loading: An S factor of 1.00 (Dedicated vapor balance) is used for truck loading calculation. Do you implement vapor balance for truck loading?</p> <p>-The vapors from the loading device are routed to the flare and must therefore be collected with a vapor recovery system that would result in balancing from the loading. Also, please note that the 1.00 S factor is conservative compared to the 0.60 when applied through the equation.</p> <p>Also, Pls. provide Natural gas throughput value.</p> <p>-The gas throughput on site is 3,000 MScf/day as shown on page 3-5 of the calcs.</p>
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Project No.:	173035	Unit Name:	Bargmann Trust Unit B1 & Franz Unit A1	PBR No(s):	106.352 2011-FEB-27, 106.492, 106.512

3/14/2012	3:31 PM	From: Sandya Bhaskara / TCEQ Rule Registrations Section To: Ms. Christina Chermak/ TITAN Engineering Cc: Mr. James Woodall/Manager of Production Operations-GCBU Mr. Monico Banda / Technical specialist / TCEQ Rule Registrations Section Mr. Marc Olivier / TCEQ Rule Registrations Section Work Leader	Email: Ms. Chermak: Thank you for your quick response and clarifications. Reg. the liquid stream H2S composition, since the site is not yet drilled, I will go with the current stream composition reported. In future, the company is required to perform the site-specific analysis and recalculate emissions (if needed) to confirm that sitewide emissions do not exceed the certified limits, within six months. H2S emission rate in flare: As mentioned in my previous email, out of the 98% emissions that is captured and collected from tanks (or waste gas), only 98% of it gets combusted in the flare and not all H2S is converted to SO2 (per TCEQ guidance). As a conservative approach, I will go ahead and report the H2S emissions from flare as <0.01 lb/hr. I hope this is ok with the company.
3/14/2012	4:35 PM	From: Christina Chermak/ TITAN Engineering To: Sandya Bhaskara / TCEQ Rule Registrations Section	Telephone: Sandya: Does AFR control any contaminants in the engine? What emission factors were used in Pg 3-2 Engine PTE?. Doesn't match vendor data sheet as reported. As a new engine data is provided, does the COMP-SV data change? Chermak: No, AFR doesn't control any engine contaminant emissions. Emission factors reported in engine emission rate calculation summary refers to NSPS JJJJ applicability / emission limits and not the vendor data sheet values. No change in COMP-SV data. Sandya: As far as the emission factors from NSPS JJJJ were high compared to vendor / catalyst data, the reviewer is ok with it.
3/15/2012	5:41 PM	From: Christina Chermak/ TITAN Engineering To: Sandya Bhaskara / TCEQ Rule Registrations Section	Email: Hi Christina: I wanted to check why truck loading emissions were not accounted for, in the flare waste gas emissions. – Sandya Reply from Christina: The truck loading is accounted for, it's just not explicitly mentioned in the text. When it says "Condensate Tanks" that includes both the tanks and the tanks loading. The MMBtu shown on the flare waste gas sheet comes from the flare feed rates sheets. These feed rates are based on the VOC emissions shown towards the top of each page. That VOC number includes the tank loading, as mentioned in the page title and above the emissions.
3/15/2012	3:15 PM	From: Isaac Vela/ TCEQ Rule Registrations Section To: Christina Chermak/ TITAN Engineering	Christina, 1. Are you confirming that the WINSIM program was ran with the inputs from the liquid analysis provided in the registration? 2. Can you verify that the total losses from the condensate tanks emissions calculations are for all the condensate tanks in the registration? (The reason I am asking is because I have done the calculations and I am getting the same value that was given in the emission summary page but for only one of the tanks.) 3. Below you mention that the vapors from the loading device are routed to the flare and must therefore be collected with a vapor recovery system. What type of vapor recovery system did you refer to? 4. For the Willeke Unit B1 SWF, the updated information included a gas analysis from eskew north, a liquid analysis from eskew north, and a liquid analysis from Laird B1. My question is which of the Liquid analysis should I base calculations off of?
3/19/2012	9:44 AM	From: Christina Chermak/ TITAN Engineering To: Isaac Vela/ TCEQ Rule Registrations Section	Hi Isaac, 1- yes, the WINSIM program used the liquid analysis from the supporting documentation (eskew north) 2- All tanks are included in the emissions totals. I am not sure what you mean with the summarization you calculated. But yes, the throughputs used to calculate the emissions do account for all tanks' throughput and therefore represent all of the emissions. Additionally, the working breathing emissions include multiple tanks not just 1. 3- It will just be a piping collection system to ensure that the emissions off of the tank loading is collected. Therefore, there will be vapor balance because this will naturally occur- the vapors are not just going to atmosphere. 4- There is no liquid analysis provided for Laird B1. It is just a HP gas analysis. The liquid analysis used in all of the calculations is from Eskew North.
3/19/2012	3:00 PM	From Sandya Bhaskara and Isaac Vela/ TCEQ Rule Registrations Section To: Christina Chermak/ TITAN Engineering	Telephone: Christina: All tanks are included in working / breathing calculations of condensate tanks and 1000 bbl/day of condensate in the WINSIM program accounts for condensate from TK-01 through TK-07. Christina: The emissions that is routed to the flare from (condensate, slop TRUCK1), (PW, TRUCK2) loading are reported in Flare feed rates from FINs TK-01 through TK-07 & TRUCK1 and in Flare feed rates from FINs TK-08 through TK-09 & TRUCK2. The emissions reported in Process Flare Waste Gas Combustion Emissions are the result of 98% combustion in the flare.

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OTHER						
FIN	Volume per event, scf	MW of gas (lb/mole)	VOC wt%	Conversion factor of lb/mole to scf/mole	Calculation	VOC ** (lb/hr) reported
COMP-01-BD	5000	28.96	25	379	VOC (lb/hr) = 5000*28.96*0.25/379	72.5
COMP-01-SV	900	28.96	25	379	VOC (lb/hr) = 900*28.96*0.25/379	13.05



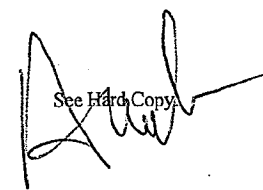
** There is a discrepancy observed in reviewer calculation & reported company calculation. Since the difference is not significant, the reviewer is ok with it.

ESTIMATED EMISSIONS															
EPN / Emission Source	Specific VOC or Other Pollutants	VOC		NOx		CO		PM ₁₀ /PM _{2.5}		SO _x		H ₂ S		CH ₂ O	
		lbs/hr	tpy	lbs/hr	tpy	lbs/hr	tpy	lbs/hr	tpy	lbs/hr	tpy	lbs/hr	tpy	lbs/hr	tpy
COMP-01 Compressor Engine 1		0.88	3.85	1.76	7.71	3.53	15.46	0.05	0.22	0.004	0.02	--	--	0.06	0.26
COMP-01-BD Compressor blow down		5.95	0.06									0.01	0.00005		
COMP-01-SV		13.05	0.34									0.01	0.0003		
FL-1 (SEP-GAS) / Separator gas to flare (2% of the year)		35.9	3.14									0.03	0.003		
FL-1 (TK-01, TK-02, TK-03, TK-04, TK-05, TK-06) / Controlled condensate tank emissions		2.31	3.67									0.0001	0.0004		
FL-1 (TK-08 and TK-09) / Controlled produced water tank emissions		0.04	0.11									<0.01	<0.01		
FL-1 (TK-07) / Controlled slop oil tank emissions		1.63	0.09												
TK-AF Antifreeze liquid storage emissions		0.5	0.01												
TK-LO Lube oil storage emissions		<0.01	<0.01												
TK-SCAV H ₂ S scavenger liquid storage emissions		<0.01	<0.01												
FL-1 (TRUCK1) / Controlled condensate truck loading		1.53	1.49												
FL-1 (TRUCK2) / Controlled PW truck loading		0.76	0.3												
FL-1 / Process flare		0.73	0.13	22.98	4.15	45.89	8.33			2.77	0.32				
FUG / Site fugitives		0.92	4.1									0.0003	0.001		
TOTAL EMISSIONS (lbs/hr):															
TOTAL EMISSIONS (TPY):			17.29		11.86		23.79		0.22		0.34		0.005		0.26
MAXIMUM OPERATING SCHEDULE:		Hours/Day		24	Days/Week		-7	Weeks/Year		52	Hours/Year		8760		

SITE REVIEW / DISTANCE LIMIT	Yes	No	Description/Outcome	Date	Reviewed by
Site Review Required?		X		3/20/2012	Ms. Sandya Bhaskara
PBR Distance Limits Met?	X		The site emits sour gas but applicant reported that the facility is located at least 1/4 mile from any recreational area or residence or other structure not occupied or used solely by the owner or operator of the facility or the owner of the property upon which the facility is located.	3/20/2012	Ms. Sandya Bhaskara

TECHNICAL REVIEW: AIR PERMIT BY RULE

Permit No.:	100315	Company Name:	Burlington Resources Oil & Gas Company LP	APD Reviewer:	Ms. Sandya Bhaskara
Project No.:	173035	Unit Name:	Bargmann Trust Unit B1 & Franz Unit A1	PBR No(s):	106.352 2011-FEB-27, 106.492, 106.512

	TECHNICAL REVIEWER	PEER REVIEWER	FINAL REVIEWER
SIGNATURE:			 See Hard Copy
PRINTED NAME:	Ms. Sandya Bhaskara	Mr. Monico Banda	Ms. Anne Inman, P.E., Manager
DATE:	3/20/2012	3/21/2012	

BASIS OF PROJECT POINTS	POINTS
Base Points	2.00
Project Complexity Description and Points:	5.25
Technical Reviewer Project Points Confirmation:	7.25
Final Reviewer Project Points Confirmation:	